

Applicant : Scott Montgomery
Appl. No. : 09/990,605
Examiner : Kambiz Abdi
Docket No. : 703602.6 (formerly 268/261)

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1. (original) A method of providing a unique postage indicium for use in a postal system, comprising:

generating a unique postage indicium having a character string that is unique within the postal system;

deriving a digital signature from the unique character string; and

associating the digital signature with the unique postage indicium to generate a self-validating unique postage indicium.
2. (original) The method of claim 1, wherein the unique character string comprises a tracking ID.
3. (original) The method of claim 1, wherein the digital signature association comprises attaching the digital signature to the unique postage indicium.
4. (original) The method of claim 1, further comprising applying the self-validating unique postage indicium to a mail piece.
5. (original) The method of claim 1, further comprising applying the self-validating unique postage indicium to a mail piece in a barcode format.
6. (original) The method of claim 4, wherein the mail piece is a package.
7. (original) The method of claim 4, wherein the mail piece is an envelope.
8. The method of claim 4, wherein the unique character string is also applied to the mail piece independently of the self-validating unique postage indicium.
9. (original) The method of claim 1, wherein the digital signature is

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generated by applying a private key to the unique postage indicium.

10. (original) The method of claim 1, wherein the unique character string originates from a single database within the postal system.

11. (original) The method of claim 1, wherein the postal system is the United States Postal Service.

12. (original) The method of claim 1, wherein the unique postage indicium further has one or more items selected from the group consisting of an indicia version number, algorithm identification, certificate serial number, device identification, ascending register, postage, date of mailing, originating zip code, software identification, descending register, and rate category.

13. (original) A method of detecting postal fraud in a postal system, comprising:

receiving a plurality of mail pieces within the postal system, each carrying a self-validating postage indicium containing a postage indicium having a character string, and containing a digital signature derived from the character string;

reading each self-validating postage indicium to obtain the postage indicium and digital signature;

validating each postage indicium by determining if the digital signature is consistent with the character string; and

comparing all of the character strings obtained from the postage indicia.

14. (original) The method of claim 13, wherein each character string comprises a tracking ID.

15. (original) The method of claim 13, wherein each self-validating postage indicium is embodied in a barcode format, and the self-validating postage indicium is

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read with a barcode reader.

16. (original) The method of claim 13, wherein each digital signature is generated with a private key, and the postage indicium authentication comprises applying a corresponding public key to each digital signature.

17. (original) The method of claim 13, further comprises storing the character strings obtained from the postage indicia in a single database.

18. (original) The method of claim 13, wherein the postal system is the United States Postal Service.

19. (original) The method of claim 13, wherein postal fraud is determined if two of the character strings match.

20. (original) The method of claim 13, wherein the postage indicium has postage information in addition to the character string, and the digital signature is derived from the character string and postage information.

21. (original) A method of detecting postal fraud in a postal system, comprising:

receiving a mail piece within the postal system, the mail piece carrying a self-validating postage indicium containing a postage indicium having a character string, and a digital signature derived from the character string, the mail piece further carrying an expected representation of the character string independent of the self-validating postage indicium;

reading the self-validating postage indicium to obtain the postage indicium and digital signature;

validating the postage indicium by determining if the digital signature is consistent with character string; and

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comparing the character string obtained from the postage indicium to the expected representation of the character string.

22. (original) The method of claim 21, wherein the character string comprises a tracking ID.

23. (original) The method of claim 21, wherein the self-validating postage indicium is embodied in a barcode format, and the self-validating postage indicium is read with a barcode reader.

24. (original) The method of claim 21, wherein the digital signature is generated with a private key, and the postage indicium authentication comprises applying a corresponding public key to the digital signature.

25. (original) The method of claim 21, wherein the postal system is the United States Postal Service.

26. (original) The method of claim 21, wherein postal fraud is determined if the character string obtained from the postage indicia does not match the expected character string representation.

27. (original) The method of claim 21, wherein the character string obtained from the mail piece is compared with character strings obtained from other mail pieces.

28. (original) The method of claim 27, wherein postal fraud is determined if two of the character strings match.

29. (original) The method of claim 21, wherein the postage indicium has postage information in addition to the character string, and the digital signature is derived from the character string and postage information.

30. (original) A method of providing postage indicia for use in a postal system, comprising:

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generating a plurality of unique postage indicia having a plurality of character strings unique within the postal system;

deriving a plurality of digital signatures from the plurality of unique character strings; and

generating a plurality of self-validating unique postage indicia by associating the plurality of digital signatures with the plurality of unique postage indicia.

31. (original) The method of claim 30, wherein all of the steps are performed in a centralized postage-issuing computer system.

32. (original) The method of claim 31, further comprising:

receiving a plurality of postage indicium requests at the centralized postage-issuing computer system from a plurality of end user computers; and

transmitting the plurality of self-validating unique postage indicia from the centralized postage-issuing computer system to the plurality of end user computers.

33. (original) The method of claim 32, wherein each of the plurality of postage indicium requests is embodied in a single data stream.

34. (original) The method of claim 32, further comprising receiving the plurality of unique character strings at the centralized postage-issuing computer system from a master tracking computer system.

35. (original) The method of claim 32, further comprising receiving the plurality of unique character strings at the centralized postage-issuing computer system from the plurality of end user computers.

36. (original) The method of claim 30, wherein all of the steps are performed in a plurality of end user computers.

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37. (original) The method of claim 30, wherein the plurality of unique character strings comprises a plurality of unique tracking ID's.

38. (original) The method of claim 30, wherein the digital signature association comprises attaching the plurality of digital signatures to the plurality of unique postage indicia.

39. (original) The method of claim 30, further comprising applying the plurality of self-validating unique postage indicia to a plurality of mail pieces.

40. (original) The method of claim 30, further comprising applying the plurality of self-validating unique postage indicia to a plurality of mail pieces in a barcode format.

41. (original) The method of claim 40, wherein the plurality of mail pieces is a plurality of packages.

42. (original) The method of claim 40, wherein the plurality of mail pieces is a plurality of envelopes.

43. (original) The method of claim 30, wherein the plurality of digital signatures is generated by applying one or more private keys to the plurality of unique character strings.

44. (original) The method of claim 30, wherein the postal system is the United States Postal Service.

45. (original) The method of claim 30, wherein each of plurality of unique postage indicia further has one or more items selected from the group consisting of an indicia version number, algorithm identification, certificate serial number, device identification, ascending register, postage, date of mailing, originating zip code, software identification, descending register, and rate category.

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46. (withdrawn) A method of providing a postage indicium for use in a postal system, comprising:

receiving a unique identifier request from an end user computer;

transmitting a unique identifier to the end user computer in response to the unique identifier request, wherein the unique identifier is unique within the postal system;

receiving a postage indicium request from an end user computer;

generating a unique postage indicium carrying the unique identifier;

deriving a digital signature from the unique identifier;

generating a self-validating unique postage indicium by associating the digital signature with the unique postage indicium; and

transmitting the self-validating unique postage indicium independently from the unique identifier transmitted in response to the unique identifier request.

47. (withdrawn) The method of claim 46, wherein all of the steps are performed in a centralized postage-issuing computer system.

48. (withdrawn) The method of claim 47, further comprising receiving the unique identifier at the centralized postage-issuing computer system from a master tracking computer system.

49. (withdrawn) The method of claim 48, further comprising transmitting another unique identifier request from the centralized postage-issuing computer system to the master tracking computer system in response to receipt of the unique identifier request from the end user computer.

50. (withdrawn) The method of claim 48, further comprising storing the

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received unique identifier within the centralized postage-issuing computer system prior to receiving the unique identifier request.

51. (withdrawn) The method of claim 46, wherein the unique identifier request is received at a master tracking computer system, the unique identifier is transmitted from the master tracking computer system, and the remaining steps are performed in a centralized postage-issuing computer system, the method further comprising receiving the unique identifier at the centralized postage-issuing computer system from the end user computer.

52. (withdrawn) The method of claim 46, wherein the unique identifier is a single unique character string.

53. (withdrawn) The method of claim 52, wherein the unique identifier comprises a unique tracking ID.

54. (withdrawn) The method of claim 46, wherein the unique identifier comprises two or more character strings.

55. (withdrawn) The method of claim 54, wherein the unique identifier comprises a postage vendor ID, user account number, and piece count.

56. (withdrawn) The method of claim 46, wherein the digital signature association comprises attaching the digital signature to the unique postage indicium.

57. (withdrawn) The method of claim 46, further comprising:

receiving the unique identifier at the end user computer;

receiving the self-validating unique postage indicium at the end user computer;

and

applying the receiving unique identifier and self-validating unique postage indicium to a mail piece.

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58. (withdrawn) The method of claim 57, wherein the received unique identifier is applied to the mail piece in a one-dimensional barcode format, and the self-validating unique postage indicium is applied to the mail piece in a two-dimensional barcode format.

59. (withdrawn) The method of claim 57, wherein the mail piece is a package.

60. (withdrawn) The method of claim 57, wherein the mail piece is an envelope.

61. (withdrawn) The method of claim 46, wherein the digital signature is generated by applying a private key to the unique identifier.

62. (withdrawn) The method of claim 46, wherein the postal system is the United States Postal Service.

63. (withdrawn) The method of claim 46, wherein the unique postage indicium further has one or more items selected from the group consisting of an indicia version number, algorithm identification, certificate serial number, device identification, ascending register, postage, date of mailing, originating zip code, software identification, descending register, and rate category.

64. (original) A postage indicia generation system for implementation with a postal system, comprising:

an end user computer;

a centralized postage-issuing computer system;

a communications link connecting the end user computer with the centralized postage-issuing computer system;

wherein the end user computer is configured for transmitting a postage indicium request to the centralized postage-issuing computer system over the communications

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link, and the centralized postage-issuing computer system is configured for generating and transmitting a self-validating unique postage indicium to the end user computer over the communications link, the self-validating unique postage indicium containing a character string unique to the postal system and a digital signature derived from the unique character string.

65. (original) The system of claim 64, further comprising:

a master tracking computer system; and

another communications link connecting the centralized postage-issuing computer system with the master tracking computer system;

wherein the master tracking computer system is configured for transmitting the unique character string to the centralized postage-issuing computer system over the other communications link.

66. (original) The system of claim 65, wherein the centralized postage-issuing computer system is further configured for transmitting a unique identifier request to the master tracking computer system over the communications link in response to the postage indicium request.

67. (original) The system of claim 66, wherein the centralized postage-issuing computer system is further configured for storing the received character string within the centralized postage-issuing computer system prior to the postage indicium request.

68. (original) The system of claim 64, further comprising:

a master tracking computer system; and

another communications link connecting the end user computer with the master tracking computer system;

wherein the end user computer is configured for transmitting a unique identifier

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request to the master tracking computer system over the other communications link, for receiving the unique character string from the master tracking computer system over the other communications link, and for transmitting the unique character string to the centralized postage-issuing computer system over the communications link.

69. (original) The system of claim 64, further comprising:

a plurality of end user computers;

a plurality of communications links connecting the plurality of user computers with the centralized postage-issuing computer system;

wherein the plurality end user computers is configured for transmitting a plurality of postage indicium requests to the centralized postage-issuing computer system over the plurality of communications links, and the centralized postage-issuing computer system is configured for generating and transmitting a plurality of self-validating unique postage indicia to the plurality of end user computers over the plurality of communications links, the plurality of self-validating unique postage indicia containing a plurality of character strings unique to the postal system and a plurality of digital signatures derived from at least portions of a plurality of unique postage indicia containing the plurality of unique character strings.

70. (original) The system of claim 69, further comprising:

a master tracking computer system; and

another communications link connecting the centralized postage-issuing computer system with the master tracking computer system;

wherein the master tracking computer system is configured for transmitting the plurality of unique character strings to the centralized postage-issuing computer system over the other communications link.

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71. (original) The system of claim 69, further comprising:

a master tracking computer system; and

another plurality of communications links connecting the plurality of end user computers with the master tracking computer system;

wherein the plurality of end user computers is configured for transmitting a plurality of unique identifier requests to the master tracking computer system over the other plurality of communications links, for receiving the plurality of unique character strings from the master tracking computer system over the other plurality of communications links, and for transmitting the plurality of unique character strings to the centralized postage-issuing computer system over the plurality of communications links.

72. (original) The system of claim 64, wherein the unique character string comprises a unique tracking ID.

73. (original) The system of claim 64, wherein the end user computer is configured for applying the self-validating unique postage indicium to a mail piece.

74. (original) The system of claim 64, wherein the centralized postage-issuing computer system is configured for applying a private key to the unique character string to generate the digital signature.

75. (original) The system of claim 64, wherein the postal system is the United States Postal Service.

76. (original) The system of claim 64, wherein the unique postage indicium further has one or more items selected from the group consisting of an indicia version number, algorithm identification, certificate serial number, device identification, ascending register, postage, date of mailing, originating zip code, software identification, descending register, and rate category.

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77. (original) A centralized postage-issuing computer system for issuing postage indicia within a postal system, comprising:

data processing circuitry;

a database storing a plurality of user accounts;

a communications module, when executed by the data processing circuitry, configured for receiving a postage indicium request from an end user computer; and

a postage indicium generation module, when executed by the data processing circuitry, configured for generating a self-validating unique postage indicium in response to the postage indicium request, the self-validating unique postage indicium containing a character string unique to the postal system and a digital signature derived from the unique character string.

78. (original) The centralized postage-issuing computer system of claim 77, wherein the communications module is further configured for transmitting the self-validating unique postage indicium to the end user computer.

79. (original) The centralized postage-issuing computer system of claim 77, wherein the postage indicium generation module comprises:

a unique postage indicium generation submodule for generating the unique postage indicium;

a digital signature generation submodule for generating the digital signature; and

an association submodule for associating the digital signature with the unique postage indicia to generate the self-validating unique postage indicium.

80. (original) The centralized postage-issuing computer system of claim 77, wherein the communications module is further configured for receiving the unique character string from a master tracking computer system.

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81. (original) The centralized postage-issuing computer system of claim 80, wherein the communications module is further configured for transmitting a unique identifier request to the master tracking computer system in response to receiving the unique identifier request from the end user computer.

82. (original) The centralized postage-issuing computer system of claim 80, further comprising a database management module for storing the received character string in the database prior to receiving the unique identifier request from the end user computer.

83. (original) The centralized postage-issuing computer system of claim 77, wherein the communications module is further configured for receiving the unique character string from the end user computer.

84. (original) The centralized postage-issuing computer system of claim 77, wherein the communications module is configured for receiving a plurality of postage indicium requests from a plurality of end user computers; and

wherein the unique postage indicia module is configured for generating a plurality of self-validating unique postage indicia in response to the plurality of postage indicium requests, the plurality of self-validating unique postage indicia containing a plurality of character strings unique to the postal system and a plurality of digital signatures of the plurality of unique character strings.

85. (original) The centralized postage-issuing computer system of claim 84, wherein the communications module is further configured for receiving the plurality of unique character strings from a master tracking computer system.

86. (original) The centralized postage-issuing computer system of claim 84, wherein the communications module is further configured for receiving the plurality of unique character strings from the plurality of end user computers.

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87. (original) The centralized postage-issuing computer system of claim 77, wherein the unique character string comprises a unique tracking ID.

88. (original) The centralized postage-issuing computer system of claim 77, wherein the centralized postage-issuing computer system comprises a private key, and the postage indicium generation module is further configured for applying the private key to the unique character string to generate the digital signature.

89. (original) The centralized postage-issuing computer system of claim 77, wherein the postal system is the United States Postal Service.

90. (original) The centralized postage-issuing computer system of claim 77, wherein the unique postage indicium further has one or more items selected from the group consisting of an indicia version number, algorithm identification, certificate serial number, device identification, ascending register, postage, date of mailing, originating zip code, software identification, descending register, and rate category.

91. (original) A method of providing a unique identifier within a postal system, comprising:

obtaining a character string that is unique within the postal system;

deriving a digital signature from the unique character string; and

associating the digital signature with the unique character string to generate a self-validating unique identifier.

92. (original) The method of claim 91, wherein the unique character string comprises a tracking ID.

93. (original) The method of claim 91, wherein the digital signature association comprises attaching the digital signature to the unique character string.

94. (original) The method of claim 91, further comprising applying the self-

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validating unique identifier to a mail piece.

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